The Treasury

Solid Energy Information Release

March 2013

Release Document

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CROWN OWNERSHIP MONITORING UNIT

Treasury Report: Solid Energy National Resource Company Response

Date:	27 August 2010	Report No:	T2010/1609

Action Sought

	Action Sought	Deadline
Minister of Finance (Hon Bill English)	**Note and agree** to the recommendations in this report.	Read before 31 August 2010.
Minister for Economic Development (Hon Gerry Brownlee)	**Note** contents of report.	None
Minister for State Owned Enterprises (Hon Simon Power)	**Note and agree** to the recommendations in this report.	Read before your meeting with the Chair of SEL, at 9.30am on Tuesday 31 August 2010.
Associate Minister of Finance (Hon Steven Joyce)	**Note** contents of report.	None

Contact for Telephone Discussion (if required)

Name	Position	Telephone		1st Contact
[4]	Analyst, Crown Ownership and Monitoring Unit	[1]		
Andrew Blazey	Manager, Crown Ownership and Monitoring Unit	[1]		✓

Minister of Finance's Office Actions (if required)

Once signed by the Minister of Finance please forward to Minister for State Owned Enterprises for signing.

Enclosure: **No**

27 August 2010

Treasury Report: Solid Energy National Resource Company Response

Executive Summary

Solid Energy Limited (SEL) has developed a proposal, which it has given to Ministers, to transform itself into a National Resource Company (NRC). The operations of NRC would include coal mining, lignite conversion to higher value products, unconventional gas (e.g. Coal Seam Gas, Underground Coal Gasification and Methane Hydrates), conventional oil and gas exploration and production, iron sands mining and steel production.

SEL states that the objective of the NRC proposal is to stimulate and accelerate development and use of New Zealand's natural resources and to capture maximum value for New Zealand. The development of the NRC would require an estimated investment of $15.3 billion by 2021.

COMU's analysis indicates that supporting such a proposal would require one to:

a. accept the aggressive future oil price used by SEL;
b. accept that there will only be a short window of opportunity;
c. accept that if supernormal profits arise from this window, they could not be captured by a royalty or tax regime; and
d. accept that the benefit of granting SEL first right of refusal to newly issued areas, cancelled permits and released permits would outweigh the disadvantage of such a proposal.

COMU cautions against decisions to progress the NRC proposal without heavily testing the strength of the above arguments.

As a consequence, this report does not support the development of a single NRC as the optimal way (given both the potential risk and return) to maximise the value of New Zealand's mineral resources. We consider that SEL should focus on areas where it has specific capability and resources (coal, lignite, non-conventional gas), and that Government's role would therefore be limited to supporting SEL's investment decisions based on major business cases.

Recommended Action

We recommend that you:

a **note** COMU's initial analysis indicates that supporting SEL's NRC proposal would require one to:

i. accept the aggressive future oil price used by SEL;
ii. accept that there will only be a short window of opportunity;
iii. accept that if supernormal profits arise from this window, they could not be captured by a royalty or tax regime; and
iv. accept that the benefit of granting SEL first right of refusal to newly issued areas, cancelled permits and released permits would outweigh the disadvantage of such a proposal.

b **note** that COMU has reviewed the NRC proposal of SEL and does not support the development of a NRC as proposed;

c **note** the assumptions supporting the SEL proposal are not consistent with those made by independent experts;

d **agree** that SEL should focus on areas where it has specific capability and resource, specifically coal, lignite, non-conventional gas; and

Agree/disagree
Minister of Finance

Agree/disagree
Minister for State Owned Enterprises

e **refer** this report to the office of the Prime Minister.

Referred/Not Referred
Minister of Finance

Referred/Not Referred
Minister for State Owned Enterprises

Andrew Blazey
Manager, Crown Ownership and Monitoring Unit
for Secretary to the Treasury

Hon Bill English
Minister of Finance

Hon Simon Power
Minister for State Owned Enterprises

Treasury Report: Solid Energy National Resource Company Response

Purpose of Report

1. The purpose of this report is to update Ministers on the information received from Solid Energy Limited (SEL) regarding its National Resource Company (NRC) proposal and to provide advice on the implications of the proposal.

2. This report is also to brief the Minister for State Owned Enterprises for his meeting with John Palmer, Chair of SEL, at 9.30am to 10.00am on Tuesday 31 August 2010.

Background

The NRC proposal

3. SEL has developed a proposal, which it has given to Ministers, to transform itself into a NRC. The operations of NRC would include coal mining, lignite conversion to higher value products, unconventional gas (e.g. Coal Seam Gas, Underground Coal Gasification and Methane Hydrates), conventional oil and gas exploration and production, iron sands mining and steel production [Figure 1 refers].

4. SEL state that the objective of the NRC proposal is to stimulate and accelerate the development and use of New Zealand's natural resources and to capture value for New Zealand.

5. In order for SEL to develop into a NRC, SEL has sought the following:

   - a suspension of dividend payments the with cash being used for further capital investment;
   - indicative approval for total capital investment (including dividends and cash flow) of $2-3 billion per annum with cumulative investment of $27 billion;
   - the transfer to SEL of Kupe and other Government-owned permits or production, and their associated cash flows at no cost to SEL;
   - the Crown provides first right of refusal to NRC for newly issued areas, cancelled permits and released permits; and
   - the Crown would agree that new production plants are eligible for CO_2 credits based on best practice technology.

6. The 2009/10 commercial value of SEL is estimated at $3.5 billion, a portion of which is ascribed to projects in the NRC proposal. Based on the NRC proposal and assuming that the Crown retains the value of its investment, SEL would increase in value to $18.8 billion by 2021 (or 10 percent of GDP)[1]. Although this observation does not indicate acceptance of the commercial return, it does illustrate the size of the proposal.

[1] All figures are in 2010 dollars.

7. SEL has made a number of assumptions to underpin its rationale for the development of the NRC, these being:

- *a short window of opportunity* -The assumption is that the world is entering a transition period between traditional fossil fuels and yet to be developed renewable technologies, during which time supernormal profits will accrue to those able to exploit natural resources. Post the transition period, these resources are to decline in relative value.

- *New Zealand could miss out on supernormal profits during this period* -To capture these returns, SEL states New Zealand must own the exploration, production and marketing processes, not just receive a royalty from the resource.

- *Economies of scale will accrue to NRC.*

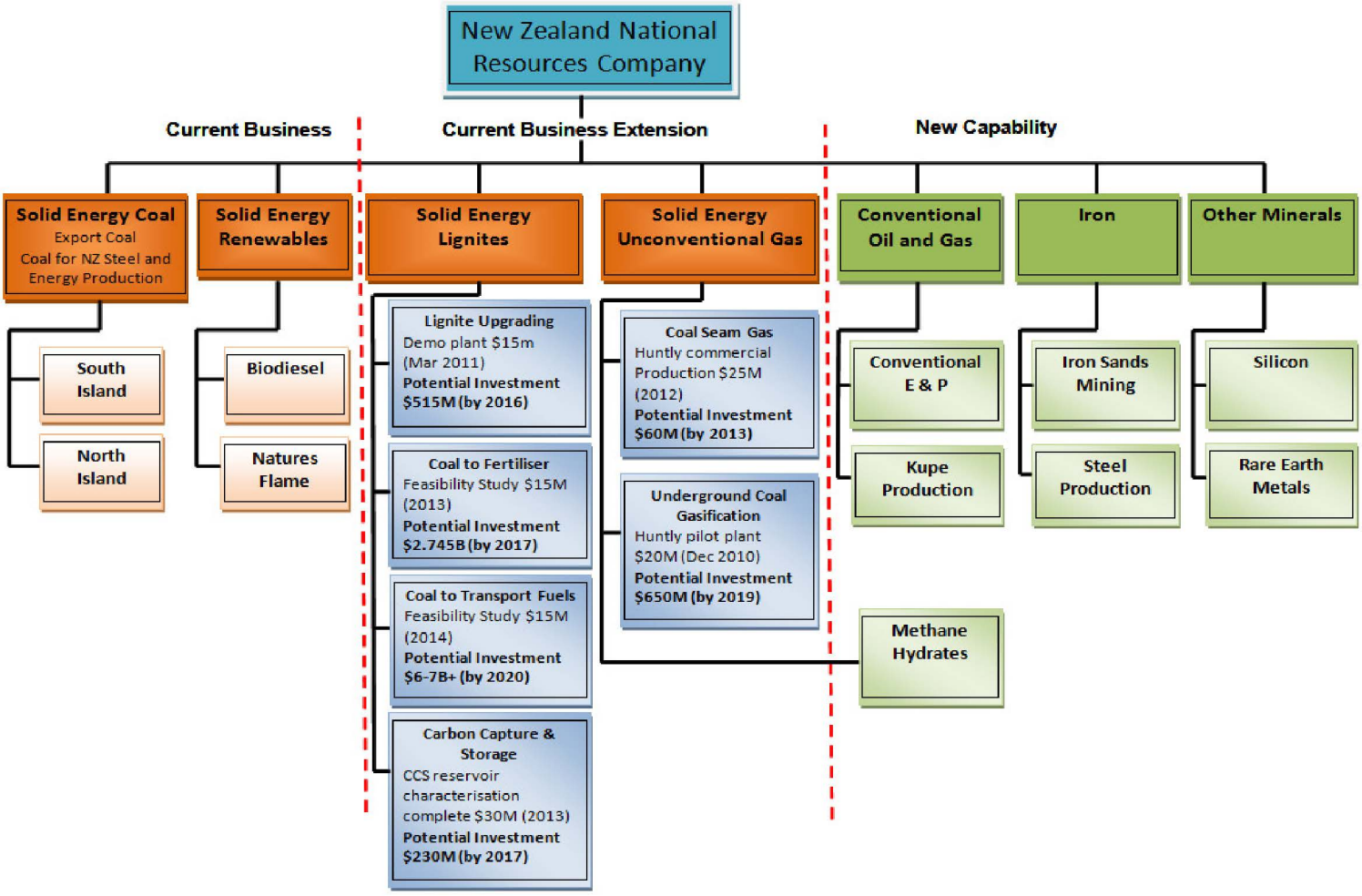
8. Figure 1 separates the proposed NRC into three broad areas:

- ***Current Business*** – SEL's existing business of coal mining for export, steel production and energy production;

- ***Current Business Extension*** – SEL's business activities which are at an early stage of development and based on SELs existing resource access; and

- ***New Capability*** – Conventional oil and gas exploration and production, other minerals and iron; areas where SEL does not have existing resources and is unlikely to have significant capability.

Figure 1: Proposed NRC Structure



Previous advice to Ministers

9. On 7 May 2010 Senior Ministers (PM, Hons English, Brownlee, Power and Joyce) received a report [T2010/784 refers] on officials' preliminary view of the NRC proposal, which was for the purpose of briefing Ministers prior to meeting SEL's Chair, John Palmer, and SEL's Chief Executive, Don Elder, on 10 May 2010.

10. On 1 July 2010, SEL provided a draft SCI and business plan to the Minister for State Owned Enterprises, and following advice from COMU, shareholding Ministers wrote to the Chair of SEL on 14 July 2010 advising that the SCI did not meet their expectations as the SCI:

    - forecasts the introduction of external equity which is not consistent with the Government's current policies; and

    - suspends dividends before approval is given to invest in major capital projects.

New information and correspondence with SEL

11. SEL followed up the meeting with Senior Ministers on 10 May 2010 by sending a letter and an A3 presentation providing further detail on the NRC proposal. Subsequently, SEL provided more detail on the proposed integrated NRC "Extracting Value for New Zealand" which contained eight specific decisions or actions sought by SEL:

Table 1: SEL's requests to shareholding Ministers regarding the NRC proposal

	Request
1	SEL/NRC retain early year free cash flows for investment in business growth.
2	Transfer Kupe and other Government-owned permits or production, and cash-flows, into NRC.
3	Provide first right of refusal to NRC for newly issued areas, cancelled permits and released permits.
4	New work programmes for mineral permits to have comprehensive work and investment plans leading directly to resource development rather than option holding.
5	Increased enforcement of existing work programmes. Cancel existing permits where development is unlikely or not viable.
6	Develop active RMA processes to manage major projects of national significance effectively.
7	Develop Carbon Capture and Storage regulations and provide certainty of pore space access, storage parameters and long-term liability.
8	Agree any new production plants are eligible for CO_2 credits based on best practice technology.

Analysis

12. This section of the report provides analysis of key aspects of the NRC proposal based on the updated information supplied by SEL. To avoid duplication, this report does not repeat analysis provided in earlier reports [T2010/784 and T2010/1239 refer].

Short window of opportunity

13. SEL assumes that the value of the New Zealand's mineral resources would be maximised by a rapid pace of development, due to a short window of time for supernormal profits, and that direct investment by the Crown would increase the pace of development and allow the Crown to capture the supernormal profits.

14. However, the necessity for a rapid pace of investment and resource development depends critically on the view that the world will enter a 'transition period' between traditional fossil fuels and yet to be developed renewable technologies or alternative fossil fuels (such as Methane Hydrates) and, during such a period, world demand for fossil fuels would be higher than currently forecast. Further, that following the transition, these resources will decline in real value.

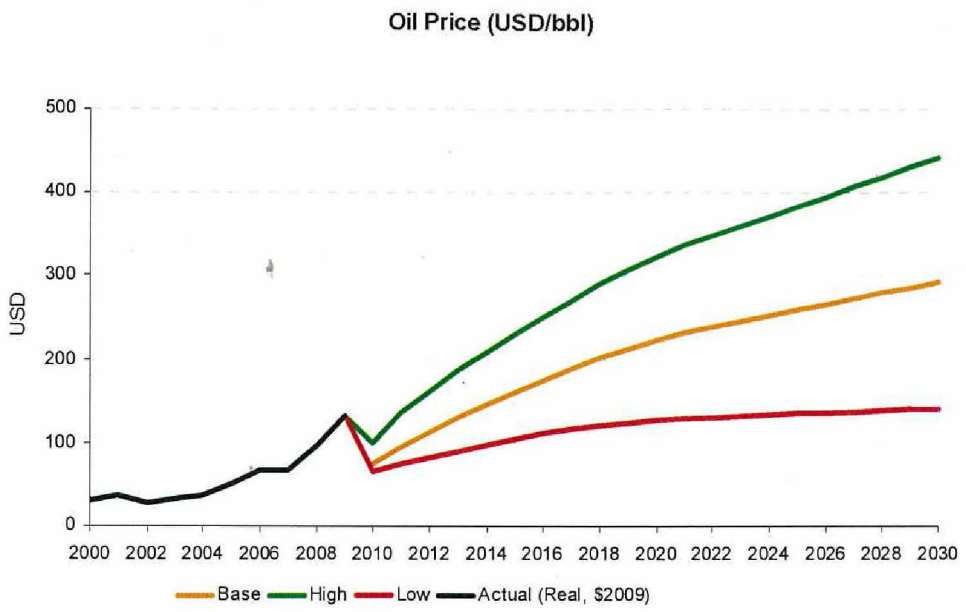
15. COMU is not convinced by such a scenario as it is not supported by future prices for resources, or forecasts by industry organisations.

Inconsistency of the transition period and the value of the NRC investment

16. If the real oil price were to decline after the transition period then we would also expect the value of investments in fossil fuels to rapidly decline. In itself, this would undermine the rational for a NRC as the NRC does not provide a positive cash-flow to the Crown until 2017, and a fall in the value of the investment implies that the NRC would have little future value to the Crown.

17. Regarding future prices, SEL uses the global oil price to proxy the price of energy based commodities and has created three scenarios for future oil prices (base, high and low). These are used for its valuation and strategies for oil, coal, gas and biomass. Figure 2 shows SEL's oil price forecast. Officials have previously advised that the oil price growth forecast by SEL is bullish, even the base case assumption (middle line on graph) exceeds the high growth path forecast of MED and the International Energy Agency, which forecasts the price of oil not to exceed US$180 per barrel over the same period. In fact, the mid-point of the SEL forecast is US$250 per barrel in real terms by 2025 and three times the current price.

Figure 2: Solid Energy Forecast Oil Price



18. Much of the value of the options presented by SEL is based on its expectation of future commodity price movements rather than the value it would add by the resource development. It is not clear why the Crown would wish to take such an exposure in commodity price movements based on price path analysis not shared by other experts.

19. There is little evidence in the SEL oil price forecast of any long-run real oil price reduction that would support the theory of a transition period to maximise the value of New Zealand's mineral resources.

20. Alternative fuels may in time, if a sufficient quantity can be developed, slow or cap oil prices, if they can be produced at a lower cost than traditional oil. However, there is the possibility that the real price of oil will continue to increase and that the value of New Zealand's mineral resources would be maximised and captured by a slower pace of development. Such a scenario is not anticipated within the NRC proposal.

Retention of SEL dividends for investment

21. SEL has requested that the company be permitted to withhold dividends for the purpose of investing in the NRC. The proposal does not provide for dividends to be returned to the Crown until some point between 2017 and 2020, provided SEL's assumptions prove accurate.

22. COMU is of the view that the payment of dividends is a good commercial practice, and compensates shareholders for the equity invested. Although SEL has requested support to suspend dividends for proposed future capital investment, if the investments are sound then these investments should increase the commercial value of SEL and therefore not necessitate the suspension of dividends.

Whether the Crown should own all exploration and production activities

23. The Crown benefits directly from the development of New Zealand's natural resources via income tax and royalty income, and indirectly through employment effects. Maximising these benefits depends on the natural resources being allocated to the party who can gain the greatest commercial return from the resource, rather than resource ownership itself.

24. SEL's proposal to create a monopoly NRC is unlikely to result in an efficient resource allocation and may potentially hamper resource development by excluding new entrants. In addition, providing preferential resource access could freeze out competition and chill inward investment in the resources sector. MFAT is also yet to be consulted on whether the NRC proposal would comply with New Zealand's international obligations.

25. There is further potential to add value through processing of natural resources such as lignite to fertiliser or fuel. However, this processing comes with additional risk. Many of the SEL proposals are at an early pre-commercial stage of development and will require feasibility studies and/or demonstration plants, and ultimately a full business case for investment. The NRC proposal does not articulate the case for the Crown to own all of these activities or for the activities to be limited to one company.

Sensitivity testing of proposals

26. Many of the projects in the SEL 2011 business plan show an Internal Rate of Return (IRR) greater than 20 percent. However, the IRR (and payback period) are a function of forecast future prices [Table 2 refers].

Table 2: Summary of Capital Expenditure

Operation Project	Development Stage[2]	Planned date of first production (fiscal year)	NPV $ millions	**IRR**	Discounted payback period (8%)	CAPEX 3 years ($millions)	Potential future investment	Long-run Marginal Cost
Coal Seam Huntly	PAG4	2011	70	**26%**	9.1	27	Coal Seam Gas $60M (by 2013)	$6.90/GJ
Coal Seam Taranaki	PAG2	2012	265	**27%**	7.5	0		$5.17/GJ
Coals-to Liquid	PAG1	2017	11,230	**25%**	11.9	111	$6-7B (by 2020)	US$91/bbl
Coals-to Fertiliser	PAG3	2011	4,305	**24%**	10.1	0	$2.7B (by 2017)	US$475/t
Lignite Upgrading	PAG3	2011	303	**21%**	10.9	114	$515M (by 2016)	NZ$124/t
Underground Coal Gasification	PAG3	2011	202	**19%**	12.2	25	$650M (by 2019)	$6.85/GJ

27. Therefore, before any investment is made the feasibility of each project should be tested against different price scenarios. Such sensitivity analysis would be expected as part of a normal business case to shareholders. Issues that would need to be considered would likely include:

    - the NPV on each project based on the futures curve;
    - the breakeven price of oil in real terms for the project;
    - the marginal cost of production for each project; and
    - production cost relative to world supply curve, that is, whether SEL is a high or low cost producer. This is a material issue for the riskiness of any project.

28. The absence of such information indicates that the NRC proposal is only at a concept stage. More detailed analysis would be necessary in order for Ministers to have comfort with the proposal. However, the above analysis demonstrates that the basis of the proposal do not appear to be well founded. In itself, this complicates further development of the proposal in its current form.

Options and possible responses to NRC

29. Notwithstanding the analysis in the above section, the SEL proposal makes a useful contribution to thinking about the development of the mineral and resources sectors. This section considers options available to SEL and the Crown while at the same time suggesting responses to the eight actions sought by SEL.

30. Although the NRC is one possible investment approach, alternatives include:

    - ***SEL develops projects under current structure or via a wholly owned subsidiary of SEL -*** SEL invests in new projects on a case by case basis as and when it demonstrates the investment is commercially viable and the company has the capability to support activities outside of its existing breadth of expertise.

[2] The SEL Project Assessment Guidance (PAG) is a stage-gate approval process in which where the accuracy of the cost estimates will increase at each stage: 1. Desktop review; 2. Conceptual study; 3. Secondary assessment; 4. Pre-feasibility study; 5 Feasibility study.

- ***Joint Venture Development*** - SEL enters into joint ventures for commercially viable investments, so it can access technology and or capability to maximise returns. Capability could include both particular skills and other benefits such as established channels for distribution.

- ***Spin off Companies*** - SEL identifies where it can initiate investment and sell (i.e. spin-off) to other parties once the commercial potential has been proven. This is at the higher risk end of the options, given the capital being committed to prove commercial potential, but recognises that there are areas where SEL will have sound expertise to determine commercial viability. The use of spin off companies and private capital could minimise the level of the long-run capital committed by the Crown, and market-test the viability of projects.

- ***Combination of a Joint Venture and with Spin off***

Case by case development

31. Based on the above paragraphs, we would suggest that SEL not present an omnibus option for capital investment but instead to present individual business cases for each project.

32. We would also expect SEL to carefully consider what resource development path would maximise the shareholder value, be that investing in the early stage development of technology and evidence of feasibility and then spinning off as a separate company or developing joint ventures and partnering arrangements. Which path SEL chooses would depend on such factors as:

    - the objective of the proposal;

    - the most efficient way in which risks can be managed; and

    - what is an appropriative level of long-term capital to commit.

33. Even if SEL is not the eventual owner of the lignite processing plants (briquetting, fertiliser or fuel) SEL is however likely to generate significant value through long-term supply contacts and could also benefit from any potential supernormal profits by pricing its lignite supply (or at least a portion of it) based on the value of the commodity being produced.

SEL Joint venture development

34. SEL appears to be already taking a sensible approach with respect to partnering and establishing joint ventures, to add skills or increase its access to technology, evidenced by:

    - SEL's joint venture with GTL Energy to investigate the feasibility of building a briquetting plant (lignite upgrading);

    - SEL and Ravensdown are jointly exploring the potential for a coal to fertiliser plant using lignite;

    - negotiating a commercial agreement for access to advanced technology for lignite to fuel processing (with Sasol and Shell); and

    - in 2007 SEL signed an exclusive technology agreement with Ergo Energy Limited; an underground coal gasification technology provider.

Short-term capital requirements

35. SEL does not appear to have any immediately pressing need for capital. In the first instance, SEL should look to using more debt. Its current debt to commercial value of around 5 percent (assuming the commercial valuation approved by the SEL board is robust) and the level of interest cover (EBIT/Interest) of 7 times, indicate that SEL has significant debt headroom.

Next steps

36. Officials recommend that shareholding Ministers inform SEL that, in response to the NRC proposal and the eight specific requests sought by SEL:

Request 1 to 5: Development of the NRC, dividends, and preferential resource rights

- Shareholding Ministers are encouraged by the vision of SEL in developing the NRC proposal but do not support the development of a single NRC or providing SEL with preferential resource rights, as being the best way (given both the potential risk and return) to maximise the value of New Zealand mineral resources.

- Shareholding Ministers support the commercial discipline of paying dividends to compensate shareholders for the equity invested and therefore wish to see consistent dividend payments from SEL.

- Shareholding Ministers are supportive of SEL developing its existing natural resources, including lignite and unconventional gas; and expect to be consulted on significant developments, and receive robust business cases for consideration/approval.

- Any request for capital will need to be considered on a case by case basis and in context with other requests to the Crown for capital.

- For each initiative, SEL needs to consider the appropriate time to introduce external capability or financing (be that debt or equity) in order to minimise risks while progressing development.

Request 6: Develop active RMA processes to manage major projects of national significance effectively

- ***Significant progress has already been made*** -The Government has already made changes to the RMA (effective from 1 October 2009) to reduce frivolous, vexatious and anti-competitive objections. There were also amendments to improve the process for applications relating to proposals of national significance, for instance a decision on the application must now be made within 9 months of the date of notification. Other changes with respect to approving major infrastructure projects are being progressed.

Request 7: Develop Carbon Capture and Storage (CCS) regulations and provide certainty of pore space access, storage parameters and long-term liability

- Work on CCS legislation and policy is being led through MED. The Government is working through issues such as the long-term liability, and ownership of pore spaces (which may promote constitutional/Treaty issues). MED is working direct with SEL on these matters.

Request 8: Agree any new production plants are eligible for CO_2 credits based on best practice technology

- ***SEL can apply for CO_2 credits when and if necessary under the existing policy*** - To be eligible for industrial allocation, SEL have to comply with the criteria set out in the Climate Change Response Act 2002 (CCRA). If the activity meets the tests in the CCRA, then the responsible Minister has discretion to recommend the regulations regarding industrial allocation.

Consultation

37. MED was consulted on the content of this report and supports the recommendations.

Office of Hon Simon Power

MP for Rangitikei

Minister of Justice
Minister for State Owned Enterprises
Minister of Commerce
Minister Responsible for the Law Commission
Associate Minister of Finance
Deputy Leader of the House

0 8 SEP 2010

Mr John Palmer
Chair
Solid Energy New Zealand Ltd
PO Box 1303
CHRISTCHURCH 8140

Dear Mr Palmer

National Resource Company (NRC) Proposal

I would like to thank you and your Chief Executive, Don Elder, for meeting me on 31 August 2010 to discuss the Government's response to the Solid Energy Limited (Solid Energy) NRC proposal.

Ministers are encouraged by the vision of Solid Energy in developing the NRC proposal. We also appreciate the efforts of the Solid Energy Board, management and staff that have gone into preparing the proposal.

Shareholding Ministers have carefully considered the proposal and at this stage do not support the development of a single NRC to maximise the value of New Zealand mineral resources.

Shareholding Ministers are, however, supportive of Solid Energy developing its current natural resources, including lignite and unconventional gas. As discussed with you, we expect that Solid Energy will develop resources on a project by project basis.

We also expect to be consulted on significant projects, and have the opportunity to discuss the proposals with you. The proposals should be supported by a business case and assessed against standard business case investment criteria.

Yours sincerely

Hon Simon Power
Minister for State Owned Enterprises

cc: Don Elder, Chief Executive Officer, Solid Energy

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